WIRELESS NETWORK SOLUTIONS

PTP 45600 and 48600 Bridges

Point-to-point connectivity for Federal and NATO use

The 4 GHz licensed spectrum has been designated for use by the U.S. Federal Government and NATO countries for fixed and mobile communications. After a simple licensing process, Federal and NATO agencies have exclusive rights to use this spectrum for a variety of Department of Defense (DoD) and non-DoD applications including, but not limited to, battlefield communications, Land Mobile Radio (LMR) backhaul, public safety, video surveillance, border security, training and simulation networks, and building-to-building connectivity.

Wireless Network Solutions
PTP 45600 and 48600 systems are included in Motorola's portfolio of unrivaled wireless network solutions. The portfolio includes indoor WLAN, outdoor wireless mesh, point-to-multipoint, point-to-point networks and voice over WLAN systems, giving customers the agility and seamless connectivity they need to grow their business or better protect and serve the public. Combined with powerful software for wireless network design, security, management and troubleshooting, Motorola's solutions deliver trusted networking and anywhere access to organizations worldwide.

High-Bandwidth Maneuvers

Motorola offers two point-to-point (PTP) wireless broadband solutions that are optimized to meet the needs of Federal and NATO agencies – the PTP 45600 which operates in the 4.4 to 4.6 GHz licensed radio frequencies and the PTP 48600 which operates in the 4.7 to 5.0 GHz licensed frequencies. Because the PTP 48600 frequencies encompass the 4.9 band, Federal agencies can utilize the same radios for Federal operations, public safety and collaboration with local and state agencies.

Both the PTP 45600 and PTP 48600 Wireless Ethernet Bridges provide outstanding throughput, reach and reliability to support tactical communications, Telemetry and LMR backhaul, persistent awareness, hub-and-spoke backhaul for edge mobility and a host of other connectivity operations. With technology that allows you to connect previously inaccessible locations, PTP 45600 and PTP 48600 solutions can deliver up to 99.999% link availability in non-line-of-sight environments, across long-distance line-of-sight paths, over water and open terrain, even through extreme weather conditions, facilitating:

- Network connections around buildings and hills, through trees, over water
- Single-hop, long-range line-of-sight links – even across desert terrain
- Fixed or portable data, voice and video communications

Reassuring Link Planning and Security

Motorola's PTP LINKPlanner lets you project link performance prior to purchase, based on variables specific to your deployment. You can plan and optimize a single link or multiple links simultaneously and obtain a detailed performance report to speed deployment.

Because most government and military agencies require FIPS 140-2 certification, PTP 45600 and 48600 solutions offer a FIPS 140-2 Level 2 mode which can be activated by obtaining a license key and loading an approved version of the embedded software. Links with FIPS 140-2 security must also


Integrated


Connectorized

Additional Information
For more information, refer to the PTP 45600 and PTP 48600 Specification Sheet. To learn more about the PTP synchronization unit, refer to the PTP-SYNC Specification Sheet.

* While FIPS 140-2 is compatible with existing systems, certain hardware limitations may apply.

have 128-bit or 256-bit AES encryption (an optional module). Together AES encryption and FIPS 140-2* protection provide robust security for transporting data, voice and video as well as secure tracking of any user who attempts to alter, remove or update existing hardware and software.

Choice and Flexibility

Recognizing that there are a number of internal and external factors (e.g., infrastructure complexities, budget, bandwidth requirements, path characteristics, applications, etc.) that will influence your solution choice, the PTP 45600 and PTP 48600 bridges are available in two models to meet your specific requirements.

Model & Description
PTP 45600 Integrated and PTP 48600 Integrated With dual polar built-in antennas, these models are excellent for non-line-of-sight and long-distance line-of-sight paths.
PTP 45600 Connectorized and PTP 48600 Connectorized These bridges combine all the innovative technology of the Integrated models with the high-gain advantage of external antennas, enabling connections up to 124 miles (200 km) even in extremely adverse environments.

The Integrated and Connectorized models offer selectable channel sizes and varying Ethernet data rates:

Channel Sizes	Maximum Ethernet Data Rate (Aggregate)	
	PTP 45600	PTP 48600
5 MHz	Up to 40 Mbps	Up to 48 Mbps
10 MHz	Up to 84 Mbps	Up to 100 Mbps
15 MHz	Up to 126 Mbps	
20 MHz	Up to 168 Mbps	Up to 200 Mbps
30 MHz	Up to 300 Mbps	

Powerful Technologies

Carrier-class reliability and high throughput are possible because of a unique combination of technologies built into PTP 45600 and 48600 bridges.

- Multiple-Input Multiple-Output (MIMO) – minimizes signal fading due to path obstructions or atmospheric disturbances
- *Intelligent* Orthogonal Frequency Division Multiplexing (*i*-OFDM) – transmits data on multiple frequencies, resulting in higher channel bandwidth and greater resistance to interference and signal fading
- Adaptive Modulation – continually optimizes modulation to transmit the maximum amount of data while maintaining the highest levels of link quality
- Best-in-Class Radios – offer the highest system gain in their class through the use of high transmit power and ultra-sensitive receivers, allowing communications to go farther and faster than comparable systems
- Advanced Spectrum Management with *Intelligent* Dynamic Frequency Selection – self-selects the frequency over which the bridge can sustain the highest data rate at the highest availability
- Time Division Duplex (TDD) Synchronization – times and synchronizes transmit and receive signals, enabling co-channel operations; requires a Motorola PTP-SYNC Synchronization Unit to provide an accurate timing reference signal

In addition, PTP 45600 and 48600 systems include ATPC (Automatic Transmit Power Control) which dynamically adapts to the existing path loss conditions, enabling the receiver to achieve the optimum receiver signal level.

Commanding Performance and ROI

PTP 45600 and PTP 48600 are designed to perform at top rank in virtually any environment, even under the toughest conditions. Portable packaging makes the systems excellent for tactical deployments, while the Connectorized models are superb for longer, permanent fixed deployments. Because the systems are so cost-effective, most government and NATO organizations can realize a return on their investment within a year.

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